

CLAIMS

1. (Currently amended) An isolated nucleic acid molecule, selected from the group consisting of:
 - a) a nucleic acid molecule encoding a polypeptide having the amino acid sequence of SEQ ID NO: 2;
 - b) a nucleic acid molecule comprising the sequence of SEQ ID NO: 1;
 - c) a nucleic acid molecule which is at least 95% homologous to the 708 amino acids of sequence SEQ ID NO: 1 and whose complementary strand hybridizes under stringent conditions with a nucleic acid molecule encoding the amino acid sequence of SEQ ID NO: 2 or with a nucleic acid molecule consisting of the nucleic acid sequence of SEQ ID NO: 1, and which encodes a fluorescent protein.
2. (Previously presented) The isolated nucleic acid molecule according to claim 1, wherein said nucleic acid molecule further comprises a functional promoter operably linked to its 5' end.
3. (Previously presented) A recombinant vector comprising the isolated nucleic acid molecule of claim 1 or claim 2.
4. (Previously presented) A host cell, which contains the vector according to claim 3.

5–9. (Cancelled)

10. (Previously presented) A method of determining whether a gene of interest, or fragment thereof, has been expressed comprising monitoring the fluorescence of a polypeptide encoded by a fusion gene and comparing it to the fluorescence when the gene or fragment is not expressed, wherein said fusion gene comprises the nucleic acid of claim 1 operably linked to said gene of interest, or fragment thereof.

11. (Previously presented) The recombinant vector of claim 3, wherein the vector is an expression vector.

12. (Previously presented) The vector of claim 11, wherein said vector comprises an inducible promoter.

13. (Previously presented) A method of producing a fluorescent protein encoded by the nucleic acid of claim 1 in a host cell, wherein said host cell is a bacteria cell or a eukaryotic cell comprising the steps of:

- (i) transforming said host cell with the expression vector of claim 11, and
- (ii) growing said host cell from step (i) under conditions that permit said fluorescent polypeptide to be produced in the transformed host cell of part (i).

14. (Cancelled)

15. (Currently amended) An isolated nucleic acid molecule, selected from the group consisting of:

- a) a nucleic acid molecule encoding a polypeptide having the amino acid sequence of SEQ ID NO: 2;
- b) a nucleic acid molecule comprising the sequence of SEQ ID NO: 1;
- c) a nucleic acid molecule which is at least 95% homologous to the 708 amino acids of sequence SEQ ID NO:1 and whose complementary strand hybridizes under stringent conditions with a nucleic acid molecule encoding the amino acid sequence of SEQ ID NO: 2 or with a nucleic acid molecule consisting of the nucleic acid sequence of SEQ ID NO: 1, and which encodes a fluorescent protein having an excitation peak of about 475 nm and an emission peak of about 493 nm.

16. (Previously presented) The method of claim 13, further comprising isolating the fluorescent polypeptide.

17. (Cancelled)